

May 13, 2003

Mr. Garrick Ballard  
A & M International, Inc.  
3329 East Prospect Street  
Indianapolis, Indiana 46203

RE: Minor Source Operating Permit  
MSOP 097-14713-00409

Dear Mr. Ballard:

Enclosed is a Minor Source Operating Permit issued in approval of the A & M International, Inc., located at 3329 East Prospect Street, Indianapolis, Indiana 46203.

Please note that this approval has been issued with certain conditions. If the conditions are not acceptable, contact the Indianapolis Office of Environmental Services (OES) by letter or telephone within fifteen (15) days from the date of this letter. The Division will arrange a meeting to discuss the conditions in questions. If no agreement is reached, the Indianapolis Air Pollution Control Board may be petitioned within fifteen (15) days of the date of the meeting. The Board, after public notice and hearing, may sustain, modify, or rescind the conditions. Note that additional conditions may be included in the Operating Permit issued for the above equipment.

Please keep this Permit (or a copy) on file at the facility (specified in the Permit) available for inspection by the OES and IDEM, Office of Air Quality (OAQ) personnel.

If you have any questions, please contact Ms. Angelique Oliger at (317) 327-2846. Thank you for your time and cooperation in this matter.

Sincerely,

Original Signed by John B. Chavez  
John B. Chavez, Administrator

aco

Attachments: MSOP # 097-14713-00409  
TSD

**MINOR SOURCE OPERATING PERMIT  
OFFICE OF AIR QUALITY  
and  
INDIANAPOLIS OFFICE OF ENVIRONMENTAL  
SERVICES**

**A & M International, Inc.  
3329 East Prospect Street  
Indianapolis, Indiana 46203**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-3 (Emission Offset), with conditions listed on the attached pages.

Operation Permit No.: MSOP 097-14713-00409	
Issued by: Original Signed by John B. Chavez  John B. Chavez, Administrator Office of Environmental Services City of Indianapolis	Issuance Date: May 13, 2003  Expiration Date: May 13, 2008

## TABLE OF CONTENTS

### A SOURCE SUMMARY

- A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
- A.2 Emission Units and Pollution Control Equipment Summary

### B GENERAL CONDITIONS

- B.1 Permit No Defense [IC 13]
- B.2 Definitions
- B.3 Effective Date of the Permit [IC 13-15-5-3]
- B.4 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]
- B.5 Modification to Permit [326 IAC 2]
- B.6 Annual Notification [326 IAC 2-6.1-5(a)(5)]
- B.7 Preventive Maintenance Plan [326 IAC 1-6-3]
- B.8 Permit Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]
- B.9 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2]
- B.10 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
- B.11 Annual Fee Payment [326 IAC 2-1.1-7]

### C SOURCE OPERATION CONDITIONS

- C.1 Permit Revocation [326 IAC 2-1-9]
- C.2 Opacity [326 IAC 5-1]
- C.3 Fugitive Dust Emissions [326 IAC 6-4]
- C.4 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]
- C.5 Performance Testing [326 IAC 3-6]
- C.6 Compliance Requirements [326 IAC 2-1.1-11]

#### Record Keeping and Reporting Requirements

- C.7 Malfunctions Report [326 IAC 1-6-2]
- C.8 Annual Emission Statement [326 IAC 2-6]
- C.9 General Record Keeping Requirements [326 IAC 2-6.1-5]
- C.10 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

### D.1 FACILITY OPERATION CONDITIONS - One (1) stationary dry sandblasting operation

#### Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.1.1 Agreed Judgment and Fine, July 6, 1992, City of Indianapolis (plaintiff) vs. American Painting & Sandblasting, Inc. (currently operating as A & M International, Inc.) (defendant), Cause Number 49F1292040v-0933
- D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

### D.2 FACILITY OPERATION CONDITIONS - One (1) paint gun

#### Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.2.1 Miscellaneous Metal Coating Operations [326 IAC 8-2-9]
- D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]

#### Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)][326 IAC 2-6.1-5(a)(2)]

- D.2.3 Record Keeping Requirements

Annual Notification  
Malfunction Report

## SECTION A

## SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) and the Office of Environmental Services (OES). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

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The Permittee owns and operates the stationary painting and sandblasting of structural steel operation.

Authorized Individual: Garrick A. Ballard  
Source Address: 3329 East Prospect Street, Indianapolis, Indiana 46203  
Mailing Address: 3329 East Prospect Street, Indianapolis, Indiana 46203  
General Source Phone: (317) 353-2991  
SIC Code: 3449  
County Location: Marion  
Source Location Status: Attainment for all criteria pollutants  
Source Status: Minor Source Operating Permit  
Minor Source, under PSD  
Minor Source, Section 112 of the Clean Air Act  
Not 1 of 28 Source Categories

### A.2 Emissions Units and Pollution Control Equipment Summary

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This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) stationary dry sandblasting operation, blasting structural steel, with a nozzle pressure of one hundred (100) pounds per square inch (psi), and an internal nozzle diameter of 0.375 inches. Containment nets are used during blasting. Blasting ceases when west winds are greater than twenty-five (25) miles per hour (mph).
- (b) One (1) paint gun, with a maximum paint usage of one (1) gallon per hour, venting to the atmosphere.

## **SECTION B GENERAL CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

### **B.1 Permit No Defense [IC 13]**

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This permit to operate does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

### **B.2 Definitions**

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Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

### **B.3 Effective Date of the Permit [IC13-15-5-3]**

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Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

### **B.4 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]**

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This permit is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

### **B.5 Modification to Permit [326 IAC 2]**

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All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

### **B.6 Annual Notification [326 IAC 2-6.1-5(a)(5)]**

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- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, IN 46206-6015

and

City of Indianapolis  
Office of Environmental Services

Air Quality Management Section, Permits  
2700 South Belmont Avenue  
Indianapolis, Indiana 46221

- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and OES on or before the date it is due.

**B.7 Preventive Maintenance Plan [326 IAC 1-6-3]**

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days (this time frame is determined on a case by case basis but no more than ninety (90) days) after issuance of this permit, including the following information on each emissions unit:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

and

City of Indianapolis  
Office of Environmental Services  
Air Quality Management Section, Permits  
2700 South Belmont Avenue  
Indianapolis, Indiana 46221

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMP's shall be submitted to IDEM, OAQ, and OES upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ, and OES. IDEM, OAQ, OES may require the Permittee to revise its PMP whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner or the City of Indianapolis, OES makes a request for records to the Permittee, the Permittee shall furnish the records to

the Commissioner or the City of Indianapolis, OES within a reasonable time.

**B.8 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]**

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- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

and

City of Indianapolis  
Office of Environmental Services  
Air Quality Management Section, Permits  
2700 South Belmont Avenue  
Indianapolis, Indiana 46221

Any such application shall be certified by an “authorized individual” as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

**B.9 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2]**

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee’s right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, OES, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

**B.10 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]**

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Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch and City of Indianapolis, OES, within thirty (30) days of the change.

(b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).

(c) IDEM, OAQ, and the City of Indianapolis, OES shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

**B.11 Annual Fee Payment [326 IAC 2-1.1-7]**

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(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.

(b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, I/M & Billing Section), to determine the appropriate permit fee.



## SECTION C

## SOURCE OPERATION CONDITIONS

Entire Source
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### C.1 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM and OES, the fact that continuance of this permit is not consistent with purposes of this article.

### C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

### C.3 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

### C.4 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
  - (1) When the amount of affected asbestos containing material increases or

decreases by at least twenty percent (20%); or

- (2) If there is a change in the following:
  - (A) Asbestos removal or demolition start date;
  - (B) Removal or demolition contractor; or
  - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management  
Asbestos Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

and

City of Indianapolis  
Office of Environmental Services  
Air Quality Management Section, Permits  
2700 South Belmont Avenue  
Indianapolis, Indiana 46221

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-7-1(34).

- (e) Procedures for Asbestos Emission Control  
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) Indiana Accredited Asbestos Inspector  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited, pursuant to the provisions of 40 CFR 61, Subpart M, is federally enforceable.

## Testing Requirements

### C.5 Performance Testing [326 IAC 3-6]

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

and

City of Indianapolis  
Office of Environmental Services  
Air Quality Management Section, Permits  
2700 South Belmont Avenue  
Indianapolis, Indiana 46221

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ, and OES not later than forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, and OES if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

### **Compliance Requirements [326 IAC 2-1.1-11]**

#### **C.6 Compliance Requirements [326 IAC 2-1.1-11]**

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The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

### **Record Keeping and Reporting Requirements**

#### **C.7 Malfunctions Report [326 IAC 1-6-2]**

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Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts

more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.8 Emission Statement [326 IAC 2-6]

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- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that must be received by April 15 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual emission statement shall meet the following requirements:
  - (1) Indicate estimated actual emissions of criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting);
  - (2) Indicate estimated actual emissions of other regulated pollutants (as defined by 326 IAC 2-7-1) from the source, for purposes of Part 70 fee assessment.
- (b) The annual emission statement covers the twelve (12) consecutive month time period starting December 1 and ending November 30. The annual emission statement must be submitted to:

Indiana Department of Environmental Management  
Technical Support and Modeling Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

and

City of Indianapolis  
Office of Environmental Services  
Air Quality Management Section, Permits  
2700 South Belmont Avenue  
Indianapolis, Indiana 46221
- (c) The annual emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and the City of Indianapolis, OES on or before the date it is due.

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.9 General Record Keeping Requirements [326 IAC 2-6.1-5]

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- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner or the City of Indianapolis, OES makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner or the City of Indianapolis, OES within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented when operation begins.

C.10 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

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- (a) Reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

and

City of Indianapolis  
Office of Environmental Services  
Air Quality Management Section, Permits  
2700 South Belmont Avenue  
Indianapolis, Indiana 46221

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, and the City of Indianapolis, OES on or before the date it is due.
- (c) Unless otherwise specified in this permit, any reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

## SECTION D.1 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:** One (1) stationary dry sandblasting operation, blasting structural steel, with a nozzle pressure of one hundred (100) pounds per square inch (psi), and an internal nozzle diameter of 0.375 inches. Containment nets are used during blasting. Blasting ceases when west winds are greater than twenty-five (25) miles per hour (mph).

### Emission Limitations and Standards

D.1.1 Agreed Judgment and Fine, July 6, 1992, City of Indianapolis (plaintiff) vs. American Painting & Sandblasting, Inc. (currently operating as A & M International, Inc.) (defendant), Cause Number 49F1292040v-0933

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Pursuant to Agreed Judgment and Fine, July 6, 1992, City of Indianapolis (plaintiff) vs. American Painting & Sandblasting, Inc. (defendant), the source shall undertake the following tasks:

- (a) Utilize a containment screen whenever the wind is from the northwest, west or southwest.
- (b) Cease sandblasting whenever the wind speed is greater than fifteen (15) miles per hour (mph) from the northwest, west, or southwest and greater than 30 miles per hour (mph) from any other direction.
- (c) Cease sandblasting whenever particulate is observed coming over the containment screen.
- (d) Clean the ground where the sandblasting is occurring and the area around the dumpster daily.
- (e) Cover the dumpster whenever any sandblasting material is stored in it.
- (f) Sandblast smaller parts inside the building if possible.
- (g) Maintain a log book of all air borne particulate measures which includes when sandblasting occurs and whether the containment screen is used. The log shall be kept at the facility and made available to section personnel at any time during normal business hours.
- (h) Maintain a fence that is at least six (6) feet tall along the east side of the facility to capture air borne particulate.

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

## SECTION D.2 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:** One (1) paint gun, with a maximum paint usage of one (1) gallon per hour.

### Emission Limitations and Standards

#### D.2.1 Miscellaneous Metal Coating Operations [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(d)(4), no owner or operator of this source shall cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds (VOC) in excess of three (3) pounds per gallon of coating, excluding water. This operation shall use daily weighted averaging to comply with this rule. This volume weighted average shall be determined by the following equation:

$$A = [ 3 C \times U ] / 3 U$$

Where: A is the volume weighted average in pounds VOC per gallon less water as applied;  
C is the VOC content of the coating in pounds VOC per gallon less water as applied;  
and U is the usage rate of the coating in gallons per day.

#### D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

### Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

#### D.2.3 Record Keeping Requirements

- (a) To document compliance with Conditions D.2.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.2.1.
- (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
  - (2) The volume weighted VOC content of the coatings used for each day;
  - (3) The cleanup solvent usage for each day;
  - (4) The total VOC usage for each day; and
  - (5) The weight of VOCs emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
and  
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	<b>A &amp; M International, Inc.</b>
<b>Address:</b>	<b>3329 East Prospect Street</b>
<b>City:</b>	<b>Indianapolis, Indiana 46203</b>
<b>Phone #:</b>	<b>(317) 535-2991</b>
<b>MSOP #:</b>	<b>097-14713-00409</b>

I hereby certify that A & M International , Inc. is ☒ still in operation.  
☒ no longer in operation.

I hereby certify that A & M International , Inc. is  
☒ in compliance with the requirements of MSOP 097-14713-00409.  
☒ not in compliance with the requirements of MSOP 097-14713-00409.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>



### MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6  
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?\_\_\_\_\_, 25 TONS/YEAR SULFUR DIOXIDE ?\_\_\_\_\_, 25 TONS/YEAR NITROGEN OXIDES?\_\_\_\_\_, 25 TONS/YEAR VOC ?\_\_\_\_\_, 25 TONS/YEAR HYDROGEN SULFIDE ?\_\_\_\_\_, 25 TONS/YEAR TOTAL REDUCED SULFUR ?\_\_\_\_\_, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?\_\_\_\_\_, 25 TONS/YEAR FLUORIDES ?\_\_\_\_\_, 100TONS/YEAR CARBON MONOXIDE ?\_\_\_\_\_, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?\_\_\_\_\_, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?\_\_\_\_\_, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?\_\_\_\_\_. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION \_\_\_\_\_.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC \_\_\_\_\_ OR, PERMIT CONDITION # \_\_\_\_\_ AND/OR PERMIT LIMIT OF \_\_\_\_\_

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ?    Y        N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ?    Y        N

COMPANY: \_\_\_\_\_ PHONE NO. (    ) \_\_\_\_\_  
LOCATION: (CITY AND COUNTY) \_\_\_\_\_  
PERMIT NO. \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_  
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/19\_\_\_\_        AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION:

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/19\_\_\_\_        AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO<sub>2</sub>, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

**Please note - This form should only be used to report malfunctions  
applicable to Rule 326 IAC 1-6 and to qualify for  
the exemption under 326 IAC 1-6-4.**

**326 IAC 1-6-1 Applicability of rule**

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**326 IAC 1-2-39 "Malfunction" definition**

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

**\*Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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**Indiana Department of Environmental Management  
Office of Air Quality  
and  
City of Indianapolis  
Office of Environmental Services**

**Technical Support Document (TSD) for a Minor Source Operating Permit**

**Source Background and Description**

**Source Name:** A & M International, Inc. (formerly American Painting and Blasting, Inc.)  
**Source Location:** 3329 East Prospect Street, Indianapolis, Indiana 46203  
**County:** Marion  
**SIC Code:** 3449  
**Operation Permit No.:** 097-14713-00409  
**Permit Reviewer:** Angelique Oligier

The Office of Environmental Services (OES) has reviewed an application from A & M International, Inc. for the operation of painting and sandblasting operations.

**Permitted Emission Units and Pollution Control Equipment**

- (a) One (1) stationary dry sandblasting operation, blasting structural steel, with a nozzle pressure of one hundred (100) pounds per square inch (psi), and an internal nozzle diameter of 0.375 inches. Containment nets are used during blasting. Blasting ceases when west winds are greater than twenty-five (25) miles per hour (mph).
- (b) One (1) paint gun, with a maximum paint usage of one (1) gallon per hour, venting to the atmosphere.

**Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

**Existing Approvals**

The source has been operating under previous approvals including, but not limited to, the following:

- (a) OP 5274-01, issued on June 6, 1994; and
- (b) Agreed Judgment and Fine, July 6, 1992, City of Indianapolis (plaintiff) vs. American Painting & Sandblasting, Inc. (defendant) (Currently A & M International, Inc.), Cause Number 49F1292040V-0933.

All conditions from previous approvals were incorporated into this permit.

**Recommendation**

The staff recommends to the Administrator that the operation be approved. This recommendation

is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on August 3, 2001.

### Emission Calculations

See Appendix A (three pages) of this document for detailed emissions calculations. Abrasive calculations (Appendix A, page three of three) are based on 3,650 hours per year, because sandblasting operations take place outside and can only occur during daylight, which at worst case is ten hours per day, 365 days per year.

### Potential To Emit (before control)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency." There are no emission controls

Pollutant	Potential To Emit (tons/year)
PM	53.87
PM-10	53.87
SO <sub>2</sub>	negligible
VOC	18.12
CO	negligible
NO <sub>x</sub>	negligible
HAPs	12.18

HAP's	Potential To Emit (tons/year)
ethyl benzene	3.04
xylene	9.31
hexone	3.65
TOTAL	12.18

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than one hundred (100) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of particulate is greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year, therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (d) Fugitive Emissions  
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and

volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Actual Emissions

No previous emission data has been received from the source.

### County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	maintenance attainment
NO <sub>2</sub>	attainment
Ozone	maintenance attainment
CO	attainment
Lead	unclassifiable

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Marion County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	53.87
PM10	53.87
SO <sub>2</sub>	negligible
VOC	18.12
CO	negligible
NO <sub>x</sub>	negligible
Single HAP	9.31
Combination HAPs	12.18

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

## Part 70 Permit Determination

### 326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit R097-14713-00409, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OES inspector assigned to the source.

## Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

## State Rule Applicability - Entire Source

Agreed Judgment and Fine, July 6, 1992, City of Indianapolis (plaintiff) vs. American Painting & Sandblasting, Inc. (defendant), Cause Number 49F1292040v-0933

Pursuant to Agreed Judgment and Fine, July 6, 1992, City of Indianapolis (plaintiff) vs. American Painting & Sandblasting, Inc. (defendant), Cause Number 49F1292040v-0933, the source shall undertake the following tasks:

- (a) Utilize a containment screen whenever the wind is from the northwest, west or southwest.
- (b) Cease sandblasting whenever the wind speed is greater than fifteen (15) miles per hour (mph) from the northwest, west, or southwest and greater than 30 miles per hour (mph) from any other direction.
- (c) Cease sandblasting whenever particulate is observed coming over the containment screen.
- (d) Clean the ground where the sandblasting is occurring and the area around the dumpster daily.
- (e) Cover the dumpster whenever any sandblasting material is stored in it.
- (f) Sandblast smaller parts inside the building if possible.
- (g) Maintain a log book of all air borne particulate measures which includes when sandblasting occurs and whether the containment screen is used. The log shall be kept at the facility and made available to section personnel at any time during normal business hours.
- (h) Maintain a fence that is at least six (6) feet tall along the east side of the facility to capture air borne particulate.

### 326 IAC 1-6-3 (Preventive Maintenance Plan)

This source is subject to 326 IAC 1-6-3 because it is required to obtain a Permit. Any person responsible for operating any facility required to obtain a Permit shall prepare and maintain a Preventive Maintenance Plan which includes the following:

- (a) Identification of responsible individuals for inspecting, maintaining and repairing emission control devices.
- (b) Description of items and conditions that will be inspected and an inspection schedule.
- (c) Identification of replacement parts in inventory for quick replacement.

The Preventive Maintenance Plan shall be submitted upon request and subject to review and approval by OES.

**326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements)**

This source was an existing minor source when it was built prior to 1980 and is not one (1) of the twenty-eight (28) listed source categories. There have been no modifications since the source was built. The potential to emit each criteria pollutant from the entire source is less than 250 tons per year. Therefore, this source is an existing minor source and the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Requirements) are not applicable.

**326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants)**

The surface coating operations will emit less than ten (10) tons per year of a single HAP or twenty-five (25) tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

**326 IAC 2-6 (Emission Reporting)**

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than ten (10) tons per year of VOC and is located in Marion County. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

**326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**326 IAC 6-1-2 (Particulate Emissions Limitations)**

This rule does not apply to this source because the potential to emit of particulate is less than one hundred (100) tons per year and it is not a specifically listed source in 326 IAC 6-1-12.

**326 IAC 7-1 (Sulfur Dioxide Emission Limitations)**

This rule does not apply to this source because the potential to emit of each individual unit is less than 25 tons per year or 10 pounds per hour of Sulfur Dioxide.

**326 IAC 8-2-9 (Miscellaneous Metal Coating Operations)**

This source is subject to 326 IAC 8-2-9(d)(4) (Miscellaneous Metal Coating Operations), because it coats metal parts under the Standard Industrial Classification Code of major group #34, and it does not apply clear coating, and does not air dry or forced warm air dry, and it does not apply extreme performance coating. Pursuant to 326 IAC 8-2-9(d)(4), no owner or operator of this source shall cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of three (3) pounds per gallon of coating, excluding water. This operation shall use daily weighted averaging to comply with this rule.

**Conclusion**

The painting and sandblasting operations shall be subject to the conditions of the attached proposed MSOP 097-14713-00409.



## HAP Emission Calculations

**Company Name:** A & M International, Inc.  
**Plant Location:** 3329 East Prospect Street, Indianapolis, Indiana 46203  
**County:** Marion  
**Permit Reviewer:** Angelique Oliger  
**Date:** February 10, 2003

Material	Density (Lb/Gal)	Gal of Ma (gal/unit)	Maximum (unit/hour)	Weight % ethyl benzene	Weight % xylene	Weight % hexone	ethyl benzene (ton/yr)	xylene (ton/yr)	hexone (ton/yr)	total HAPs (ton/yr)
Tnemec 9097 Zinc	24.0	1.0	1.0	2.21%	8.86%	0.00%	2.33	9.31	0.00	11.64
Tnemec 1009 Primer	11.7	1.0	1.0	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00
Tnemec Series 135	12.3	1.0	1.0	0.00%	1.64%	6.79%	0.00	0.84	3.65	4.49
Tnemec Series 139 Patapox	14.7	1.0	1.0	1.13%	4.81%	0.00%	0.73	3.09	0.00	3.82
Sherwin Williams b50w1	11.2	1.0	1.0	3.00%	16.00%	0.00%	1.48	7.88	0.00	9.35
Carboline	13.9	1.0	1.0	5.00%	15.00%	0.00%	3.04	9.13	0.00	12.18

Total State Potential Emissions
 **worst case:**
**3.04**
**9.31**
**3.65**
**12.18**

### METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) \* Gal of Material (gal/unit) \* Maximum (unit/hr) \* Weight % HAP \* 8760 hrs/yr \* 1 ton/2000 lbs

## VOC

## From Surface Coating Operations

Company Name: A &amp; M International, Inc.

Address City IN Zip: 3329 East Prospect, Indianapolis, Indiana 46203

Registration: 097-14713-00409

Reviewer: Angelique Oliger

Date: February 27, 2003

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year
tnemec 9097 Zinc	24.0	11.00%	0.0%	11.0%	0.0%	0.00%	1.00000	1.000	2.64	2.64	2.64	63.36	11.56
Tnemec 1009 Primer	11.7	25.09%	0.0%	25.1%	0.0%	0.00%	1.00000	1.000	2.93	2.93	2.93	70.30	12.83
Tnemec Series 135	12.3	9.12%	0.0%	9.1%	0.0%	0.00%	1.00000	1.000	1.12	1.12	1.12	26.88	4.91
Tnemec Series 139 Patapox	14.7	6.47%	0.0%	6.5%	0.0%	0.00%	1.00000	1.000	0.95	0.95	0.95	22.79	4.16
Sherwin Williams b50w1	11.2	36.80%	0.0%	36.8%	0.0%	0.00%	1.00000	1.000	4.14	4.14	4.14	99.27	18.12
Carboline	13.9	20.00%	0.0%	20.0%	0.0%	0.00%	1.00000	1.000	2.78	2.78	2.78	66.72	12.18

State Potential Emissions

worst case

18.12

## METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) \* (gal/unit) \* (lbs/gal) \* (1- Weight % Volatiles) \* (1-Transfer efficiency) \* (8760 hrs/yr) \* (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

# Appendix A: Emission Calculations

Page 3 of 3 TSD App A

## Abrasive Blasting

**Company Name:** A & M International, Inc.  
**Address City IN Zip:** 3329 East Prospect Street  
**CP:** 097-14713-00409  
**Reviewer:** Angelique Oligier  
**Date:** 02/18/03

**Table 1 - Emission Factors for Abrasives**

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

**Table 2 - Density of Abrasives (lb/ft3)**

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

**Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)**

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

## Calculations

### Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)  
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =  
D = Density of abrasive (lb/ft3) From Table 2 =  
D1 = Density of sand (lb/ft3) =  
ID = Actual nozzle internal diameter (in) =  
ID1 = Nozzle internal diameter (in) from Table 3 =

720
99
99
0.38
0.38

**Flow Rate (FR) (lb/hr) = 720.000 per nozzle**

### Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
FR = Flow Rate (lb/hr) =  
w = fraction of time of wet blasting =  
N = number of nozzles =

0.041
720.000
0 %
1

**Uncontrolled Emissions = (8760 hrs) = 29.52 lb/hr  
129.30 ton/yr**

<b>Uncontrolled Emissions (3650 hrs) =</b>	<b>12.30 lb/hr</b>
	<b>53.87 ton/yr</b>

## METHODOLOGY

Emission Factors from Stappa Alapco, Section 3 "Abrasive Blasting"  
Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs  
Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)  
E = EF x FR x (1-w/200) x N  
w should be entered in as a whole number (if w is 50%, enter 50)